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**Experiment: 5. Write a Python function to analyze the histogram of the given input image based on color levels using Open CV.**

**Code:**

```
import cv2
import numpy as np
import matplotlib.pyplot as plt

def n(p):
    i = cv2.imread(p)
    if i is None:
        print("Image not found")
        return None, None, None
    b, g, r = cv2.split(i)
    hb = cv2.calcHist([b], [0], None, [256], [0,256])
    hg = cv2.calcHist([g], [0], None, [256], [0,256])
    hr = cv2.calcHist([r], [0], None, [256], [0,256])
    return hb, hg, hr

hb, hg, hr = n("image.jpg")
plt.figure()
plt.title("Color Histogram Analysis")
plt.xlabel("Pixel Intensity")
plt.ylabel("Number of Pixels")
plt.plot(hb, color='b')
plt.plot(hg, color='g')
plt.plot(hr, color='r')
plt.show()
```

**Input and Output:**

